

REMARKS

Claims 1, 8-9, 11, 26-40 are pending after entry of the present amendment. Claims 1, 8, 9, 26-31 are amended, Claims 33-40 are newly presented, and Claims 2-7, 10, 12-25 are cancelled without prejudice or disclaimer as to the underlying subject matter. Support for the amendments and newly added claims may be found throughout the Specification and claims as originally filed, for example, the Specification at page 1, line 20 – page 2, line 10; page 7, line 23 – page 8, line 3; page 11, line 17 – page 12, line 6; page 13, lines 3 – 20; page 14, line 23 – page 15, line 9; page 17, lines 6-21; page 30, lines 8-24; page 31, line 24 – page 36, line 6; and page 48, lines 3-7.

Applicants thank the Examiner for accepting and entering the terminal disclaimer submitted on June 3, 2009. Applicants also thank the Examiner for entering the claim amendments submitted on June 3, 2009.

Moreover, Applicants thank the Examiner for withdrawing the finality of the final Office action dated February 3, 2009. Specifically, Applicants thank the Examiner for withdrawing the rejections under 35 U.S.C. § 102(b) and the provisional double patenting rejection over copending U.S. Application No. 10/546,139.

I. 35 U.S.C. § 103(a) Rejections

(a) Rejection of Claims 1-4, 8, 9, 11, 13, and 22-32 over Richaud *et al.* in view of Short *et al.*

Applicants disagree with the Examiner's 35 U.S.C. § 103(a) rejection of Claims 1-4, 8, 9, 11, 13, and 22-32 over Richaud *et al.* (*J. Biol. Chem.*, 268(36), 26827-26835(1993)) in view of Short *et al.* (U.S. Publication No. 2005/0124010). However, solely in order to facilitate prosecution, Applicants have amended Claims 1, 8-9, and 26-32 and cancelled Claims 2-7, 10, 12-25 without disclaimer or prejudice as to the underlying subject matter.

Richaud *et al.* fails to teach or fairly suggest the methods of Claims 1, 8-9, 11, and 26-40. In particular, Richaud *et al.* does not teach or fairly suggest inactivating, deleting, or inhibiting expression of the *metE* gene. Richaud *et al.* fails to even mention the *metE* gene and does not

describe methodology related to methionine biosynthesis. At best, Richaud *et al.* suggests biosynthetic pathways involving the *metC* gene. Richaud *et al.* at abstract and Figure 2. However, this is not enough to render the claims obvious. Short *et al.* does not remedy the deficiencies of Richaud *et al.* and is also unrelated to the preparation of evolved microorganisms possessing methionine synthase activity. Accordingly, withdrawal of the rejections is respectfully requested.

(b) Rejection of Claims 1-7 over Richaud *et al.* in view of WO 93/17112

Applicants disagree with the Examiner's 35 U.S.C. § 103(a) rejection of Claims 1-7 over Richaud *et al.* in view of WO 93/17112. However, solely in order to facilitate prosecution, Applicants have amended Claims 1, 8-9, and 26-32 and cancelled Claims 2-7, 10, 12-25 without disclaimer or prejudice as to the underlying subject matter.

As set forth above, Richaud *et al.* fails to teach or fairly suggest the methods of Claims 1, 8-9, 11, and 26-40. In particular, Richaud *et al.* does not teach or fairly suggest inactivating, deleting, or inhibiting expression of the *metE* gene. Richaud *et al.* fails to even mention the *metE* gene and does not describe methodology related to methionine biosynthesis. At best, Richaud *et al.* suggests biosynthetic pathways involving the *metC* gene. Richaud *et al.* at abstract and Figure 2. However, this is not enough to render the claims obvious. WO 93/17112 does not remedy the deficiencies of Richaud *et al.* and fails to provide any motivation to modify Richaud *et al.* in a manner which would render the claims obvious.

Moreover, WO 93/17112 by itself does not render the claims obvious. WO 93/17112 does not teach or fairly suggest each and every method step recited in the claims. For one, without being limited, WO 93/17112 does not suggest methodology relating to producing an evolved microorganism as set forth in method steps (a) – (c) of independent Claims 1 and 35. Specifically, for example, WO 93/17112 does not suggest culturing step (b), where a previously modified microorganism is grown on a minimal medium in the absence of methionine, S-adenosylmethionine, homocysteine or cystathionine, and in the presence of methylmercaptan under a selection pressure which allows for the modified microorganism to evolve via a methionine biosynthesis pathway. There is no evolution step necessary to allow the strain of WO 93/17112 to grow on a minimal medium in the absence of methionine, S-

adenosylmethionine, homocysteine or cystathionine as the strains of WO 93/17112 have been genetically engineered such that growth in such a minimal media is possible. WO 93/17112, for example, at page 7, line 4 – page 9, line 10; and Examples 1-3.

For at least these reasons, Applicants respectfully request that the Examiner withdraw the 35 U.S.C. § 103(a) rejections.

CONCLUSION

In view of the amendments and remarks above, Applicants respectfully submit that this application is in condition for allowance and request favorable action thereon. The Examiner is invited to contact the undersigned if any additional information is required.

Applicants believe that no fees are due. If any additional fees are required, they may be charged to Deposit Account No. 50-4254, referencing Attorney Docket No. 2912956-028000

Respectfully submitted,

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